

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number  
**WO 2004/029006 A2**

(51) International Patent Classification<sup>7</sup>: **C07B 59/00** Hammersmith Campus, DuCane Road, London W12 0NN (GB).

(21) International Application Number:  
**PCT/GB2003/004026**

(74) Agent: **HAMMETT, Audrey, Grace, Campb**; Amersham plc, Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA (GB).

(22) International Filing Date:  
18 September 2003 (18.09.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

Published:

— without international search report and to be republished upon receipt of that report

(30) Priority Data:  
0222426.9 27 September 2002 (27.09.2002) GB

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

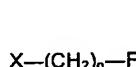
(71) Applicant (*for all designated States except US*): **HAMMERSMITH IMANET LTD. [GB/GB]**; Cyclotron Building, Hammersmith Campus, DuCane Road, London W12 0NN (GB).

(72) Inventors; and

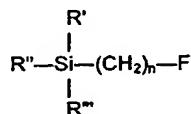
(75) Inventors/Applicants (*for US only*): **BRADY, Frank [GB/GB]**; Hammersmith Imanet Ltd, Cyclotron Building, Hammersmith Campus, DuCane Road, London W12 0NN (GB). **LUTHRA, Sajinder [GB/GB]**; Hammersmith Imanet Ltd, Cyclotron Building, Hammersmith Campus, DuCane Road, London W12 0NN (GB). **ZHAO, Yongjun [CN/GB]**; Hammersmith Imanet Ltd, Cyclotron Building,

**WO 2004/029006 A2**

(54) Title: CHEMICAL PROCESS



(I)



(II)

XY

(III)

(57) **Abstract:** The invention provides a process for preparation of a fluorohaloalkane, preferably an [<sup>18</sup>F]fluorohaloalkane of formula (I) wherein X is halo and n is an integer of from 1 to 6; which comprises: reaction of the corresponding organosilicon compound of formula (II); wherein n is as defined for the compound of formula (I); and R', R'', and R''' are independently selected from C<sub>1-6</sub> alkyl and C<sub>1-6</sub> haloalkyl; and R''' may alternatively be the group: with a compound of formula (III); wherein X is as defined for the compound of formula (I) and Y is halo. Intermediates having use in such processes are also claimed.